

MARKED-UP AMENDED CLAIMS

30. (Twice Amended): An electrophysiology device, comprising:

a) an elongated shaft having a proximal end, a distal end, and a distal shaft section;

b) a plurality of electrodes on an exterior portion of the distal shaft section; and

c) a plurality of temperature sensors on an exterior portion of the distal shaft section, being positioned so that at least one temperature sensor is disposed between two adjacent electrodes, and each temperature sensor having a conducting member comprising an annular metal band radially disposed about and adjacent to the shaft and connected to the temperature sensor thereon, which facilitates detecting tissue temperature adjacent to the conducting member [to the temperature sensor], and a jacket which is radially disposed on and about an outer surface of the metal band and which is configured to insulate the temperature sensor from electrical interference from adjacent electrodes.

61. (Six Times Amended) An electrophysiology device, comprising:

a) an elongated shaft having a proximal end, a distal end, a distal shaft section with a proximal portion and a distal portion and a wall portion defining at least in part an inner lumen extending within the distal shaft section;

b) an elongated core member disposed within the inner lumen;

- c) a plurality of coil electrodes on the proximal portion of the distal shaft section, having an inter-electrode spacing of about 1 mm to not greater than 3 mm;
- d) a plurality of electrical conductors which are at least partially embedded within a wall of the elongated shaft, and which have distal ends electrically connected to one of the coil electrodes on the proximal shaft portion; and
- e) at least one temperature sensor on an exterior portion of the distal shaft section which is disposed between two adjacent coil electrodes and which has a conductive metallic band disposed over and connected to the sensor, said band surrounding the distal shaft section, being configured to engage tissue adjacent to the conductive metallic band, to equilibrate engaged tissue temperature about the conductive metallic band and to [facilitate detecting] detect engaged tissue temperature adjacent to the conductive metallic band.

71. (Six Times Amended) A method of treating a patient for cardiac arrhythmia by electrically isolating a first tissue region from a second tissue region, comprising:

- a) providing an electrophysiology device having an elongated shaft which has a proximal end, a distal shaft section having a proximal portion with a plurality of coil electrodes with temperature sensors between adjacent coil electrodes having conductive metal bands disposed over and connected to the sensors and at least two electrical conductors which are connected to the temperature sensors and which are embedded within a wall of the

distal shaft section, the conductive metal bands being configured to engage tissue adjacent to the conductive metal bands, to equilibrate engaged tissue temperature about the conductive metal bands and to thereby facilitate detection of tissue temperature adjacent to the conductive metal bands and the distal shaft section having a distal portion with a distal end:

- b) positioning the proximal portion of the distal shaft section at a desired location between the first tissue region and the second tissue region;
- c) ablating a continuous lesion pattern between the first and second tissue regions with the electrodes on the proximal portion of the distal shaft section to electrically isolate the two tissue regions; and
- d) monitoring tissue temperature adjacent to the conductive metallic bands with the temperature sensors in contact with the conductive metallic bands.

72. (Amended) The method of claim 71 wherein tissue is ablated by an electrode that is provided on the distal end of the distal portion of the distal shaft section.

78. (Twice Amended) An electrophysiology device for electrically isolating a first tissue region from a second tissue region of a patient's heart, comprising:

- a) an elongated shaft having a proximal end, a distal end, a distal shaft section having a plurality of ablation coil electrodes configured to isolate the first tissue region from the second tissue region and a wall portion defining an inner lumen extending within at least the distal shaft section;

b. the distal shaft section having at least one temperature sensor with a thermally conducting member secured to the temperature sensor that is configured to surround the distal shaft section so as to equilibrate surrounding temperature about the thermally conducting member and that is attached to one of the ablation coil electrodes; and

c) two electrical conductors embedded within said wall portion and electrically connected to the at least one temperature sensor.

81. (Amended) The method of claim 80 wherein the temperature is detected by [at least one of the] a temperature [sensors] sensor that is secured to an adjacent electrode.